WHAT IS CLAIMED IS:

1. A method for operating a data processing system to simulate a mixer having a known design, said mixer having an RF port, a LO port, and an IF port, said method comprising the steps of:

defining an input signal, a2, to said IF port;

defining an input signal, a1, to said RF port; and

representing the signal, b2, leaving the IF port by

$$b2 = f(a1, a3) + S22 * a2$$

where:

S22 is a constant, a3 is a signal input to said LO port, and

$$f(a1, a3) = \sum_{i=o}^{M} \sum_{j=o}^{N} C_{ij} * a1^i * a3^j$$

said coefficients C_{ij} being constants that depend on said mixer design.

2. The method of Claim 1 wherein said coefficients C_{ij} are determined by measuring the b2 when a1 and a3 are single tone signals.

3. The method of Claim 1 wherein the coefficients C_{ij} are determined by simulating said mixer on a non-linear circuit simulator when a1 and a3 are single tone signals.